

XIV. *On a Collection of Lepidoptera from Arctic America.*
By HENRY JOHN ELWES, F.R.S., etc.

[Read February 4th, 1903.]

PLATE IX.

THE collection of which I give a list was made by Mr. David Hanbury, who has appended notes on the localities and habits of the insects, which give an exceptional value to it.

Though small in number of species, it is the most interesting Arctic collection I have yet seen, and most of the specimens are in beautiful condition. The variation in some of the species is extraordinary.

Considering the difficulties under which collecting is carried on in such a region, and that Mr. Hanbury had not previously any experience in collecting, this collection does him the highest credit.

He has been good enough to present the greater part of it to the National Museum.

LIST OF MR. HANBURY'S ARCTIC COLLECTION.

1. *Erebia fasciata*. (Plate IX, fig. 11 ♂, 12 ♀.)
E. fasciata, Butler, Cat. Sat. B.M., p. 92, Pl. II, fig. 8 (1868).

Several specimens in beautiful condition; from Point Epworth, 11, vii; Cape Barrow, 30, vi; Chapman Island, 27, vi; Gray's Bay, 1, vii. These agree with the type in the British Museum from Cambridge Bay, and vary considerably in the amount of rufous in the fore-wing above, which in the females extends to the base of the wing.

The fringe in quite fresh specimens is grey.

2. *Erebia disa*.
Papilio disa, Thunberg, Diss. Ins. Suec. II, p. 37 (1791).

Three males and a female from Point Epworth, 11, vii. These resemble specimens from Finland much more closely than they do specimens of the var. *mancinus*, Hew., from

Alberta, in having the band of the hind-wing below well marked.

3. *Erebia rossii*.

Hipparchia rossii, Curtis, Ross' 2nd Voy. App. Nat. Hist., p. 67, Pl. A, fig. 7 (1835).

A pair from 140° W., 67° 40' N., 14, vii, and one from Point Epworth, 11, vii, are perfectly fresh, and seem to show that this species is barely separable from the Asiatic form, *ero*, Brem. Cf. Trans. Ent. Soc. Lond., 1899, p. 347.

I previously had only bad specimens from Hudson Bay for comparison. Recently I have received a fresh female taken by Mr. Sampson in Frobisher Bay, Baffin's Land, 14, vii, 02.

The fringes of these three are all grey, which is not the case in any of my Altai specimens however fresh, though slightly evident in some from Transbaikalia.

4. *Æneis bore*, var. *taygete*.

Æ. taygete, Hübner, Samml. Ex. Schmett. (1816-1824).

Several pairs in beautiful condition from Barren Grounds, Gray's Bay, and Point Epworth; vary a good deal in the breadth, shape, and distinctness of the bands on hind-wing below. Two show the marginal row of whitish spots on hind-wing very distinctly, these are usually faint or absent in Labrador specimens.

5. *Æneis scmidca*, var. *vel crambis*, var. (Plate IX, fig. 9 ♂, 10 ♀.)

Hipparchia scmidca, Say, Amer. Ent. III, Pl. 50 (1828).

Chionobas crambis, Freyer, Neuere Beitr. V, Pl. 440, figs. 3-4 (1844).

Five specimens from Barren Grounds and one from Point Epworth, fresh and in good order, must, I think, be referred to one of these species. I might call them *pcartia*, Edw., or *assimilis*, Butl., but they are intermediate between the types of those two forms in the British Museum, being rather less conspicuously banded on hind-wing below than the former, and rather more so than the latter.

Some of them show more or less trace of the marginal row of grey spots on hind-wing, which at first led me to

think that they were *crambis*; but in a fresh state they are much blacker than any of the faded specimens of *crambis* I have before me. Whether that species, which I only know certainly from Labrador, occurs also in Arctic America, and whether when we know it better it will be possible certainly to distinguish it from *semideca*, are points which at present remain obscure.

6. *Canonympha tiphon*, var. *mixturata*.

C. tiphon, var. *mixturata*, Alpheraky, Rom. Mem. sur. Lep. IX, p. 326 (1897).

Two males and a female from Dismal Creek, taken 30, vii, are in bad condition, but are sufficient to show that the form found here, like that from Alaska, is nearer to the Kamschatkan variety than to any other.

7. *Argynnis pales*.

Papilio pales, W. V., p. 177 (1776).

Three males and a female from the Barren Grounds, taken 16 and 18, vii, are the first specimens of this species I have yet seen or heard of from America, where I have long expected to hear of its discovery.

The males are quite typical, and could not be distinguished from some Alpine specimens.

The female is like some I have from Northern Siberia.

8. *Argynnis polaris*.

A. polaris, Boisduval, Ind. Meth., p. 15 (1829); *id.* Icones, Pl. XX, figs. 1, 2 (1833).

Specimens were taken in all the localities visited in the first half of July, and are quite typical.

9. *Argynnis chariclea*. (Plate IX, figs. 6, 7, 8.)

Papilio chariclea, Schneider, Neuest. Mag. V, p. 588 (1794).

The most extraordinary variation is shown by the specimens of this species, which occurs in all parts of Arctic America, and was taken by Mr. Hanbury at all the places where he collected.

Among them a male from Chapman Island is almost black. Another from Dismal Creek is very small and pale, but a female from Point Epworth is a wonderful

aberration, and I cannot say positively whether it is *polaris* or *chariclea*, though the size and the shape of the wings indicate the latter species.

10. *Argynnis frigga*, var. *improba*.
Papilio frigga, Thunberg, *t. c.*, p. 33.
Argynnis improba, Butler, Ent. Mo. Mag. XIII,
 p. 206 (1877).

Several from the Barren Grounds and one from Point Epworth are like the type, and show but little variation.

11. *Lycæna orbitulus*, var. *franklinii*.
Papilio orbitulus, Esper, Schmett. I, 2, Pl. CXII, fig.
 4 (1800).
Lycæna franklinii, Curtis, *t. c.*, p. 69, Pl. A, figs. 8, 9.

A pair from the Barren Grounds are not so distinct from the Arctic form found in Europe, var. *aquilina*, Stgr., = *aquilo*, Bdv., as those from Labrador, and are perhaps nearer to those I have taken in the Rocky Mountains near Laggan.

12. *Colias hecla*.
C. hecla, Lefebvre, Ann. Soc. Ent. Fr., 1836, p. 383,
 Pl. IX, B, figs. 3-6.

Four males and three females from the Barren Grounds, 114° W., 67° 40' N., 13-16, vii. Agreeing well with other specimens from Arctic America, some of which were called *glacialis* by McLachlan.

Staudinger now catalogues the Lapland form as var. *subitelma*, Auriv. The specimens in Mr. Hanbury's collection differ *inter se* to a remarkable extent in the colour of the borders and discal spots of the wings above.

13. *Colias boothii*. (Plate IX, figs. 1-4 ♂, 5 ♀.)
C. boothii, Curtis, *t. c.*, p. 65, Pl. A, figs. 3-5.

This was represented by several fresh specimens, which enable me to confirm the opinion formed on very insufficient previous knowledge, that it is a species perfectly distinct from the last. The variation in this species is so great that I have had to figure five specimens to give a fair idea of it; some of them would be supposed by their markings to be females, but though the abdomens are

difficult to examine, owing to their hairy covering and being somewhat compressed in packing, I can find only one undoubted female among them. None of the specimens sent are quite what Curtis figures as *chione*, in which the marginal band is faint or absent.

The species seems to have been fairly common at Point Epworth, Gray's Bay, and on the Barren Grounds.

14. *Colias pchidne*.

C. pchidne, Boisduval, Icones, Pl. VIII, figs. 1-3.

Three pairs from Point Epworth, Barren Grounds, and Dismal Creek, of which the females differ *inter se* a good deal, one being white and two lemon-yellow.

15. *Colias nastes*.

C. nastes, Boisduval, *l.c.*, figs. 4, 5.

Four males and two females from Barren Grounds, all varying. These might be called *rossii*, Guen., or *moinea*, Streck., by those who like to try and distinguish local forms, a very uncertain task in the case of Arctic insects.

Heterocera by Sir GEORGE F. HAMPSON, Bart., B.A., F.Z.S.

NOCTUIDÆ.

Hyposphila zetterstedti, Stgr., 114° 67' 40'.

GEOMETRIDÆ.

Aspilates orciferaria, Wlk., 114° 67' 40'.

Cidaria, sp. 114° 67' 40'.

TORTRICIDÆ.

gen. sp., Point Epworth.

EXPLANATION OF PLATE IX.

- FIG. 1. *Colias boothii*, Curtis, ♂. Point Epworth.
 2. " " " ♂. Barren Grounds.
 3. " " " ♂. " "
 4. " " " ♂. Gray's Bay.
 5. " " " ♀. " "
 6. *Argynnis chariclea*, Schn., ab. Point Epworth.
 7. " " " var. ♂. Bathurst Inlet.
 8. " " " ♂. Dismal Creek.
 9. *Eneis semidea*, Say, var. ♂. Barren Grounds.
 10. " " " ♀. Point Epworth.
 11. *Erebia fasciata*, Butl., ♂. Cape Barrow.
 12. " " " ♀. Point Epworth.



Horace Knight del. et lith.

Mintern Bros. chromo.

Arctic Butterflies.